

### **ABSTRACT**

Ferroelectric capacitors ( $C_{FE}$ ) are provided, having upper and lower conductive electrodes (22, 18) spaced along an axis (48), and a ferroelectric material (20) between the electrodes, where the ferroelectric material (20) comprises unit cells (200) individually comprising an elongated dimension (c), and where 50-90% of the unit cells in the ferroelectric material are oriented with elongated dimensions substantially parallel to the axis. Methods (100) are provided for fabricating ferroelectric capacitors in a wafer, comprising forming (112) a ferroelectric material above a lower electrode material, the ferroelectric material comprising unit cells with an elongated dimension, wherein 50-90% of the unit cells are oriented with elongated dimensions substantially normal to an upper surface of the wafer.